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THE PORTION OF THE HIGH-SCHOOL PROGRAM THAT MAY ADVANTAGEOUSLY BE GIVEN TO VOCATIONAL WORK

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In the development of the more recent practical ideas of education, no other phase of thought has appealed more strongly to the popular mind than vocational education. As the popularity of this work has grown and as project methods have been developed in connection with the practical side, there has been a growing tendency to increase the proportion of time devoted to the vocational program with corresponding decrease of the general or academic studies. In most high schools offering manual training, domestic science, or commercial courses, two-year curricula were first organized, providing two units of credit out of sixteen for graduation. Special agricultural courses were introduced into high schools calling for approximately one-fourth of the pupils' time. Many of the other special courses were also extended to four units. As home and school projects in agriculture came to receive larger attention, the tendency to extend the time devoted to this side of the work became very common. In order to have the projects properly cared for throughout the season for growing crops, the work was extended not only through the school year but also through the summer season. This led to an extension of the requirement for graduation in this curriculum to eighteen units instead of sixteen, counting the projects as a distinct part of the work for which definite credit should be given.

With the coming of the Smith-Hughes program, the Federal Board for Vocational Education has gone still farther by asking that approximately 50 per cent of the pupils' time be devoted to the special agricultural work. Furthermore, along the other vocational lines, in the effort to strengthen the efficiency of the practical

side and to appeal more strongly to the vocational interests of high-school pupils, there has been a tendency to increase the time to 50 per cent or even more in some schools. The chief argument in favor of this plan, aside from the great practical value of the vocational work itself, has been that by this means many pupils could be kept in school who otherwise would drop out in the early years.

We shall agree at once in giving large importance to vocational work in the high school, and agree most heartily that every possible effort should be made to keep all pupils in the high school as long as possible. Indeed, most of us would eagerly urge with most leading educators, as well as other thoughtful men, that a high-school education ought rapidly to come to be regarded as the minimum attainment of every American boy and girl.

Important as these considerations are, however, for an extension of time devoted to vocational work, their force cannot be accepted as justification for such extensions, without careful analysis, not only of the values of vocational training but also of the larger values and demands of general education. Of course, there is a sense in which all subjects of study may be regarded as having vocational value. Moreover, all so-called vocational studies may have, if well taught, large value in connection with more general aims. However, it will help our common thinking if we use the term "vocational" in the rather strict sense defined by the Federal Board as "those studies and activities whose controlling purpose is to fit for definite and useful employment."

With this common basis of thought, let us look into some of the arguments usually advanced in favor of large extensions of time in the high school for the vocational work. The first and most untenable argument is that it makes little difference what studies a pupil takes provided he does the work diligently and efficiently; therefore, pupils ought to be allowed to take just as much vocational work as they choose. It would appear as sensible to say that it makes no difference what one eats provided the food is well masticated, or to say that it makes no difference what crops a farmer raises if they be well cultivated. The best pedagogy of today looks upon education as an exposure of those influences,

situations, and fields of thought in which pupils may be led to react most favorably in meeting the practical problems of life. In the words of one writer, "Education is the provision of that school experience in which pupils are whole-heartedly active in acquiring the ideas and the skill needed in meeting the problems of their expanding life." In the light of this conception, materials of education and subjects of study become of paramount importance in relation to pupil development and to the demands of community life.

Again, it is often assumed that the entire cause of school mortality is the pupils' lack of interest in the usual academic or general studies of the high school. Furthermore, it is concluded that if enough vocational work is provided, this elimination may be entirely overcome. No doubt the vocational program, if well directed, does attract many pupils strongly and should be used, as far as consistent with other needs, for holding pupils as long as possible in the high school. But has it not been repeatedly shown that under moderately good teaching, science, English, history, and mathematics, especially if linked up with a reasonable amount of motor and concrete activity, can also be made interesting to most students? Is it not a fact that with all the low standards of qualifications of high-school teachers and with all the poor teaching which necessarily results from immature and inexperienced teachers, high-school attendance has grown with most phenomenal rapidity? Such growth has been due primarily not to the introduction of vocational training but to the growing faith of the American people in a comprehensive plan of education as the safeguard of democracy and as a preparation for efficient life. No doubt much dead subject-matter has been forced upon unwilling pupils. However, this problem is receiving more and more scientific study with the idea of eliminating subject-matter of least value and of organizing materials in the most practical form. The fact is that both vocational and academic studies can be made dead and uninteresting or may be made vital and practical. In either group of studies, the value depends very largely upon how far pupils are led to deal with motivated life-problems and situations and to what extent materials and methods are adapted to this end.

Finally, it is by no means certain that all elimination may be prevented by increasing the amount of time a pupil may devote to vocational activities. Of the many factors involved in pupils dropping out of school, one of the greatest is the strong pull of industry which wants the cheap labor of the boy and which is able to entice him through the lure of money and greater opportunities for social pleasure and urban excitement. In both city and rural regions, elimination is due in large measure to economic pressure which leads the parent to keep the boy and girl at home for their help at the earliest possible time. The present critical labor problem in the country strengthens this tendency. In so far as vocational opportunity in the school can help to overcome these tendencies, it should be made use of, but 50 per cent of school time to vocational subjects is too large a proportion even for so desirable a result.

Leaving now the arguments in favor of large increase of time for vocational work, there are many reasons which should be considered against too great extension of this kind. In the first place, there is danger of too early emphasis upon the selection of a life-work and of too large an amount of time spent in the acquiring of specific skills in occupational lines. Such selection should not be made until the pupil has had broad training in many fields to enable him to choose wisely the occupation for which he is best fitted. The high-school period should be a time for exploration of many fields of thought and of many practical lines of activity rather than a time for too intensive study in any one direction. All the pupils should have a chance to try themselves out with reference to many fields, not only in industry and manual arts, but also in activities which are practically related to the so-called academic studies. Large emphasis should be given to the common basis of intelligence and appreciation upon which must be built up any adequate training for citizenship in a democracy. There is great danger of too little attention to these common elements of democratic education.

Again, any program which tends to separate the pupils of the high school too early into classes or groups, in which occupational distinctions can be unduly emphasized, should be considered most

carefully before being adopted. Probably no American institution compares with the high school as an agency for fostering democracy. Here all classes come together, touching elbows on a common basis and participating in common ideals and common training. It is supremely important that this great value of a high-school training shall be maintained without loss, even though something of vocational efficiency may have to be sacrificed.

Besides, any lack in the highest vocational efficiency can far more easily be compensated for after leaving high school than can lack of adequate training in the common elements of education. It was the almost universal testimony of draft officials in the recent war that deficiency in general education was the most serious handicap of the drafted men; or, stating the point positively, the most valuable qualifications of high-school students and graduates consisted in their intelligence and ready command of any important situation rather than in special technical skills. The boy who goes into industry or business deficient in the fundamental elements of a high-school education is not likely ever to make up this deficiency. On the contrary, any lack of technical skill is quickly made up by brief training in the industry or business itself. What the farmer needs, for example, in becoming a large factor in the rural problems of today, is not only a good knowledge of the principles of agriculture and some skill in its practices, but even more a breadth of view and a large vision in the consideration of any practical problem. He needs an intelligent habit of thought which will enable him to grasp any question in all its relations. True, study of the distinctly vocational subjects may help give some of this training, but such training will be inadequate without much exposure to the great fundamental lines of human thought and activity represented mainly by the academic studies of the high-school curriculum.

The greatest demand of American life today is for more intelligent citizenship and for a better moral attitude with reference to all of the activities of social, civic, and community life. If we are to meet the problems of the future in government and politics, in harmony with the best traditions and the best ideals of American life, we must develop in the schools a more effective type of training

for citizenship. To do this, we must give larger attention to such teaching in connection with the high-school curriculum. That we have failed in a large degree in meeting this problem in the past is recognized by the best educational thought on every hand. The one great problem in the high school of the future is to find a remedy for this weakness.

Let us now look at the problem from the viewpoint of the fundamental values of secondary education. These values have been much discussed with perhaps little agreement in the past, but fortunately they have recently received somewhat authoritative expression in the report of the reorganization committee of the National Education Association on "Cardinal Principles in Education."¹ This report, after a most careful study of the modern needs of democratic education, presents seven specific objectives: training for health, training in command of fundamental processes, civic education, training in wholesome use of leisure, vocational training, training for worthy home membership, and ethical or moral training. Vocational training, here appearing as one of the seven great ends of secondary education, should certainly be considered as very important. However, there is little doubt that from the standpoint of social and civic welfare the other objectives are even more significant.

It seems noteworthy in this connection that in a study of education started recently by the Wisconsin Federation of Labor, the four purposes of education about which the whole study was organized gave no prominence to vocational education. The following ideas were included: "Things which make for happiness, good citizenship, the care of health, and the care of the home." Vocational education might perhaps be included in the first of these, but was evidently not prominent in the minds of those who formulated the objectives named. There is much evidence that these ideas reflect the general spirit of labor throughout the country.

In all educational discussions for some time past, health training and citizenship training have had leading attention. No doubt much can be done in both of these fields in connection with the

¹ *Bureau of Education, Bulletin No. 35, 1918.* Washington: Department of the Interior.

general activities of the school and to some extent in connection with the usual high-school studies. However, a recent important committee report¹ before the National Association of Secondary School Principals has declared that such training in citizenship is entirely inadequate to meet the present need in American life. This committee demands that all other high-school subjects, even English if necessary, give way for a more adequate program of citizenship study. And further, the report demands that this work must be organized and carried on as a special study for all high-school pupils through every year of the curriculum. The report distinctly states that the work cannot be adequately done in connection with the history program.

We must have a very different type of teaching civics or civil government from that developed in the past. The new teaching of this subject must be dynamic rather than static; it must be functional rather than merely informational. For instance, the various governmental agencies such as state legislatures, the supreme courts of states and of the United States, the Congress of the United States, and the various boards and commissions of nation, state, and smaller political units, must be studied, not as so many abstractions, but as agencies in action, dealing with definite and current problems. These problems must be developed with the pupils in such a way that a personal relationship and responsibility may be felt and so that right moral attitudes and intelligent understanding may result. Pupils must be led to feel that governmental agencies such as Congress, a legislature, or a board of health are not mere abstractions far out of reach, but agencies for safeguarding their own individual interests as well as those of all the people. Each pupil should be given an opportunity to become acquainted with the members of governmental bodies as real people, some of whom are his own representatives, charged with his own interests. The study should help pupils to follow in an intelligent way the position taken by public officials on important issues, to know how these officials vote, and to know how to hold them responsible for their action. It should further train pupils to know how to

¹ "Report of the Committee on Social Studies in the High School," *School Review*, XXVIII (April, 1920), 283-97.

gather evidence on both sides of important questions, to weigh such evidence in the light of right principles and right moral attitude, and, finally, to think out valid conclusions and evaluate the claims of candidates seeking the support and votes of the people. The study must do much more than this in developing that spirit of honesty, of fairness, and of regard for law which alone can bring about the best individual citizenship.

To accomplish these results there will be required a much larger place for citizenship in the high-school curriculum as well as changed methods of instruction. Especially needed is a longer period of contact on the part of the pupils with these practical problems so that habits and attitudes may become firmly fixed and may be led to function permanently outside of the school. It is also important that a liberal amount of this work should be given in the earlier years of the high school, especially since so large a number of pupils at the present time do not continue through the later years. If, then, we include both history and citizenship under the one name "social studies," four units of work ought to be the least that should be required in the four-year high-school course.

The importance of English in the high-school curriculum is recognized by all. Its value as a means for effective oral and written expression is fully accepted, and its relation to wholesome use of leisure is scarcely less important. Some appreciation of the literature of the language, of its dramatic factors, its artistic elements, and its human interest is of supreme importance in determining the choices of young people in their leisure reading, in the kind of entertainment they seek, and in the social activities they enjoy. Probably there is no phase of American life today in which there is greater need of raising standards than in this line.

For both the development of skill and good habits in the use of English, and for the study of the literary and artistic side, there is need of breaking away in large degree from old curriculums. More functional types of work must be developed in both fields. Much has already been accomplished on the composition side, but much less on the literature side. There is still large use of formal and stereotyped materials which not only do not lead to functional

appreciations, but which, in fact, often have exactly the opposite effect. Present curriculum offerings from the English and American classics, especially from the former, are largely traditional and poorly adapted to the interests of high-school pupils or to their outside reading habits. This is true both as to the character and variety of the material. There is need of a much wider variety of reading material and also of a much larger use of current literature as found in recent books and magazines of the best character. We do not wish to have the older books of established value wholly left out, but we do believe there ought to be a larger variety of other material provided and used. With these values in mind three units and probably four would be the least time that could be regarded as adequate for the English work. Many of the leading universities are requiring four years of English for admission and, what is more to the point, most of the leading educational thought on secondary education is in favor of this requirement.

Then the sciences must certainly have a large place, even though a great deal of criticism, much of it just, may be offered of the highly abstract way in which these subjects have often been treated. They have an especial value as a basis and background for most of the so-called vocational subjects which involve wide applications of scientific principles. True, some of the values of the sciences may be realized in connection with the vocational subjects themselves, but the principles and applications of science cannot be adequately mastered and understood in their broader relationships without treatment as distinct units outside the strictly vocational studies. Without this larger treatment intelligence in the vocational fields is likely to be narrow and confined to routine, rule-of-thumb mastery of problems and processes. Such knowledge should be linked up with a large comprehension and appreciation of the fundamental fields of scientific thought and achievement. A most important problem of educational thought at the present time is concerned with plans and methods for making the science program more effective.

The least provision that could be thought of as in any degree satisfying the demands of the four-year high school in science would be two units; strong arguments could be advanced for

three or even four units. Chemistry, one of the most interesting of sciences to our youth and one of the most practical in relation to industry, including agriculture, now has very small place in the high-school curriculum; at least this is true in Wisconsin. Likewise zoölogy and geology receive little or no attention. Geography, a most broadening subject in relation to almost every phase of economic life, has very scant if any attention in most high schools. Important problems of transportation, marketing, trade relations, commercial centers, and business methods which vitally concern every industry are almost wholly neglected.

The organization of a science curriculum has been the subject of much debate. There seems little doubt that the general science approach to science study is based on sound pedagogy. This should begin as early as seventh or eighth grade and be continued through the ninth year. This leaves the last three high-school years for a study of the fundamental sciences on a more differentiated plan. Biology can well be placed in the tenth year, and a year each may be given to chemistry and physics in the eleventh and twelfth years. If two years of science are required of all students in the four-year high school, one year should be devoted to the general science in the ninth year and a second year to one of the specialized sciences of the last three years. At the same time, opportunity should be offered for liberal elections outside of these two required years. This works out in the most ideal way under the junior-senior high-school plan. Here the general science may be carried through the junior high school years, leaving the more differentiated plan for the senior high school.

The claims of mathematics no doubt furnish much ground for debate. Probably some traditional subject-matter in this field could be omitted without serious loss. Much attention is being given to a comprehensive reorganization of the whole subject. Nevertheless, if we include the work of arithmetic, practical accounts, and bookkeeping with such other mathematics as may be found most worth while, it would seem unwise at present to cut down the time devoted to this field below two units at the very least. Finally, the art studies, such as drawing and music, are being more and more recognized as having large value in connection

with home relations and the problems of wholesome use of leisure. These studies ought to have at least some consideration for most high-school pupils.

Bringing together, then, the results of these considerations, we have as the irreducible minimum of time necessary in the four-year high school to devote to the general studies eleven or twelve out of the usual sixteen units. These should be distributed about as follows: social studies, four; English, four; science, three or four; mathematics, two; art studies, hygiene, sanitation, etc., one. Now if we extend the total number of units required for graduation from sixteen to eighteen in order to provide adequately for the practice side of the vocational work, we have approximately one-third of the whole time as the absolute maximum that ought to be given to distinctly vocational studies, with such slight variation as might seem wise in exceptional cases.

So far no consideration has been given to the demands of students who expect or who may decide to go on to higher institutions. This has not been brought into the main discussion since its importance is regarded as secondary to the main question, namely, What are the fundamental needs of high-school education from the standpoint of the pupil and in relation to the demands of modern life? Practically, however, university entrance is a question of some importance. At present the University of Wisconsin, which may be regarded as a typical higher institution, demands for entrance fifteen units of high-school credit, of which eleven must be in general or academic studies. These eleven units do not include reviews, arithmetic, or grammar. The high-school vocational course, therefore, which requires 50 per cent of the time for vocational studies, puts pupils who graduate from it under a handicap which tends decidedly toward closing the way to higher education. There is great question regarding the wisdom of placing such a handicap in the way of any high-school graduate. Certainly it should not be done unless it can be very clearly shown that more important considerations demand it. Furthermore, it is unfair to any student to lead him into such a course without full understanding that it does not admit him unconditioned to higher institutions. Indeed, the average American parent has

little toleration for any plan or any course in education which closes the way for his boy or girl to the highest attainment. This is true even though only the occasional student may care to demand the advanced opportunity. Many high-school pupils fail to know, even at the time of graduation, to say nothing of the beginning of their course, whether or not they may decide to go on to college.

In the conclusions here arrived at, there is no intention of laying down absolute standards which cannot be varied under any circumstances. No doubt there are high-school pupils who are so strongly motor-minded or who have such mental peculiarities that academic studies offer unusual difficulty while vocational work makes an especially strong appeal. High-school administration should be flexible enough to meet these cases; but the needs of the many should not be sacrificed to meet the needs of a few.

With these considerations in mind, the State Department of Education in Wisconsin has prescribed that the minimum number of academic units in any four-year high-school course must be at least twelve. Recognizing that variation from this minimum may sometimes be wise the Department has been ready to approve some courses with a larger percentage of vocational work. In these cases, however, it has insisted that the statement must be very definitely made in such a course that it cannot be expected to admit to higher institutions unless students make up the necessary twelve units.

A new program of studies for the four-year high school was issued by the Department at the beginning of the present school year. At the basis of this program is the fundamental thought that the high-school period should be a time of exposure to all the basic fields of human thought and achievement; that every pupil should be expected to study something of language, science, mathematics, history, civic life, the arts, and vocational problems. To this end there is a backbone of required studies for all pupils. At the same time, opportunity is offered for liberal elections and for special emphasis upon the field of each pupil's greatest interest.

In the arrangement of studies the larger needs of citizenship and the study of current social and economic problems were given first consideration. Such study is not only given a place in the

later years of the course, but is also required of all students in both the ninth and tenth years. By extending the work on a fractional unit plan through both years, while accomplishing but one unit of work, pupils are given opportunity for a longer period of contact with the current practical problems of government and civic life. General science is paired with citizenship on a similar plan, in such a way that each pupil completes at the end of each year a half-unit of each subject, while in the two years he finishes one full unit of each subject. The course also offers a half-year of study of "Current Social and Economic Problems" during the Junior or Senior years. In addition, two years of mathematics, two years of history, including modern and United States, four years of English and one additional year of science are required of all students. As stated above, at least twelve units of general or academic credits must be offered for graduation. Abundant opportunity is provided for vocational work; the fine arts, music and drawing, are especially emphasized; and, finally, as liberal elections as possible are urged along all lines.

In conclusion, we are not overlooking the great values of vocational education. We recognize its value, not only because of its importance as a training for greater efficiency and individual success in our economic and industrial life, but also because of the help it can give in a better functioning and a wider application of the general studies of the high-school curriculum. Vocational training should give a dignity to all useful labor. It should help to replace the drudgery of the workaday world by an intelligent grasp of the significance and meaning of all useful processes. We feel, however, that the movement has now become so generally accepted and has developed to such a point that there is great need of more careful analysis and new estimates of values, so that none of the essential claims of high-school education may be neglected in our enthusiasm for this comparatively new field of work. It is likewise important that vocational education itself may not only find its rightful place, but that it may avoid the disfavor which may come from overextension and overemphasis. Educational balance, always needed in connection with new movements, is especially needed now in the midst of large federal

appropriations for vocational work and under the influence of a strong tendency to set up separate administrative boards whose paramount responsibility is to develop vocational results.

We have purposely kept this discussion within the high school, not including part-time education or separate vocational schools. Perhaps here somewhat larger contentions may be made for vocational education. The part-time schools should, however, be regarded as only temporary expedients to provide for those pupils who must drop out of school before the completion of a high-school course. Such schools may be needed for a long time, but as we become more and more successful in leading the general public to regard a high-school education as the minimum for every American boy and girl, the less need will there be for the part-time special school and the less will become the attendance of these schools. In the meantime, while we give every possible opportunity to the boys and girls who drop out, let us safeguard the high school as the greatest agency for the fostering of democracy. Let us also see that its training shall be broad and well balanced in relation to the fundamental demands and the richest ideals of present life. Finally, let every true friend of education see to it that the largest needs of boys and girls shall not be exploited by any narrow or one-sided conception of education, but that all may be assured the largest and fullest opportunity which can be provided by the best educational thought.